ENTROPIC communications®

July 13, 2010

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: CS Docket No. 97-80

Dear Ms. Dortch:

Entropic Communications hereby submits its comments in response to the Notice of Inquiry ("NOI").[1] Entropic is a pioneer in the development of IP networking technologies that can share the existing coaxial wiring in most Americans' homes with traditional video distribution services.

Nearly a decade ago, Entropic had the original insight that the existing coaxial wiring in the home could be used creatively and reliably as a home networking platform for both video service providers and retail equipment providers (such as interconnected gaming platforms). At the time, video home networking was in its infancy, there were several competing visions, and ample skepticism. It took several years to overcome that skepticism, and several more to reach consensus in the appropriate standards body, the Multimedia over Coax Alliance (MoCA), and to move to a multi-vendor, multi-sector deployment. It only became clear recently that the technology is broadly successful, and it is now being deployed by most major video service providers in the US.

At any time along the way, this innovation could have been derailed if a government agency had taken a snapshot and codified "the" networking technologies as Token Ring, or 802.11a, or 10BASE-T. Clearly, it can be difficult to accurately forecast changes in home networking technology and this makes it hard to develop an efficient regulatory regime that uses fixed lists of such technologies.

In Section 26, the NOI proposes the requirement of a 100BASE-TX Ethernet physical layer connection but invites comment on the use of MoCA or even whether any specific physical layer connection should be specified.

Consider first the possibility that the physical layer connection is restricted solely to a 100BASE-TX Ethernet interface. Although as the NOI correctly points out, this interface is widely used and inexpensive, most homes in the United States do not have structured wiring (i.e., CAT-5e or CAT-6) throughout the home, which means that a different physical layer network is used (for example, MoCA). Of course it is possible to bridge from an Ethernet output to another physical network but this requires a separate physical device with its own power, processing, and

[1] *See* Notice of Inquiry, FCC 10-60, 75 Fed. Reg. 27264 (May 14, 2010).

management. Even more importantly, this approach precludes innovation in network performance. For example, MoCA in the 1.1 version (the one in current volume commercial deployment) already includes substantial Layer 2 QoS capabilities that are not available in standard 100BASE-TX implementations.

The NOI asks whether the FCC should mandate a physical connection at all. This is an astute question. A parallel can be drawn to the requirement of an IEEE-1394 output connector on HD set-top boxes. It has become clear that the 1394 connector, once predicted to be the favored connector, has fallen into relative disuse in the market. Other interfaces rapidly overtook 1394, and did so without any government mandate. It is likely that any similar attempt to mandate interfaces as contemplated in the NOI runs an unnecessary risk of again inviting regulatory distortions in a technological environment that changes more rapidly than federal rules.

To the extent that the Commission nonetheless finds it necessary to actually specify physical interfaces, it would be in the public interest to include MoCA as an acceptable interface for several reasons:

- MoCA is in a unique position: among currently economical home networking technologies it is able to deliver the reliable, multi-hundred Mbps aggregate throughput of CAT-5 or 6 structured wiring but does so using the coax wiring already present in most homes, and does so without interfering with existing services over the coax. Wireless and other wireline home networking technologies (over power or telephone wires) are not able to deliver the same combination of throughput and reliability, making MoCA particularly well suited to support the Commission's vision of fostering robust IP based video networking.

- Because of its position as a standardized, multi-vendor technology with attractive economics and performance, MoCA is being widely deployed by major service providers across cable, telephone company, and satellite sectors, and enables them to offer high performance offerings of benefit to consumers.

- Simple "plug and play" MoCA based components are also directly available to consumers through retail channels and can be used by them to establish reliable coax based high speed networking in support of both internetworking with traditional service provider networks, enabling novel video distribution offerings, and internetworking their own devices, such as gaming platforms, PCs, and peripherals.

We appreciate your attention to our comments. Feel free to contact me for further information.

Sincerely,

Tom Lookabaugh
Chief Technology Officer
Entropic Communications